

## **REMARKS**

In this Response, Claims 1-3, 5, 6, 8, 9 and 11-16 are amended, no claims are added and no claims are cancelled. Claims 1-16 remain in the Application. Reconsideration of the pending claims is respectfully requested in view of the above amendments and the following remarks.

### **I. Claims Rejected Under 35 U.S.C. § 112**

Claims 5-7 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

With respect to the rejection under § 112, first paragraph, independent claim 5 is amended to clarify the structural relationship between the optical circulator and other claim elements. In addition, claims 1 and 8 are amended in a manner similar to claim 5.

With respect to the rejection under § 112, second paragraph, claims 1-3, 5, 6, 8 and 9 are amended to designate the light encoded with the code as “a first encoded light” and the light encoded with the complement code as “a second encoded light.” In addition, claims 11, 13 and 15 are similarly amended to promote clarity. Accordingly, reconsideration and withdrawal of the § 112 rejection are respectfully requested.

### **II. Claims Rejected Under 35 U.S.C. § 103**

A. Claims 11 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2004/0018018 to Izadpanah (“Izadpanah”) in view of U.S. Patent No. 6,236,483 issued to Dutt et al. (“Dutt”).

To establish a *prima facie* case of obviousness, the relied upon references must teach or suggest every limitation of the claim such that the invention as a whole would have been obvious at the time the invention was made to one skilled in the art.

Claim 11, as amended, includes the elements of “wherein the light is encoded into the second encoded light by transmitting the light through filters, and the light is encoded into the first encoded light by reflecting the light in the filters based on an optical circulator and a filter set” (emphasis added).

Neither Izadpanah nor Dutt teaches or suggests that the light is encoded into the second encoded light by transmitting the light through filters, and the light is encoded into the first encoded light by reflecting the light in the filters based on an optical circulator and a filter set.

Referring to Figs. 2, 4 and 5 of Applicants' specification, the light is encoded into "a second encoded light" by transmitting the light through filters, and the light is encoded into "a first encoded light" by reflecting the light in the filters. More specifically, the first encoded light and the second encoded light are encoded based on an optical circulator and a filter set.

Izadpanah discloses encoding the light using a user code mask (Fig. 1a). The user code mask is not an optical circulator and a filter set. Dutt also does not disclose encoding the light based on an optical circulator and a filter set. Rather, Dutt discloses the use of one switch for bipolar coding, and two independent filter sets (242 and 244 or 264 and 266) for filtering (Figs. 12a and Fig. 12b of Dutt).

Thus, Izadpanah in view of Dutt does not teach or suggest each of the elements of Claim 11 and its dependent Claim 12. Accordingly, reconsideration and withdrawal of the § 103 rejection of Claims 11 and 12 are requested.

B. Claims 11 and 15 stand rejected under 35 U.S.C. § 102(b) (presumably, § 103(a)) as being anticipated by Lam et al., "Experimental demonstration of bipolar optical CDMA system using a balanced transmitter and complementary spectral encoding", Photonics Technology Letters, IEEE, Volume 10, Issue 10, October 1998, pages 1504-1506 ("Lam") in view of U.S. Patent Application Publication No. 2004/0208233 to Dafesh ("Dafesh") and further in view of Dutt.

Both independent Claims 11 and 15, as amended, include the elements of "the light is encoded into the first encoded light by reflecting the light in the filters based on an optical circulator and a filter set." As mentioned above, Dutt does not teach or suggest these elements.

Lam and Dafesh also do not teach or suggest these elements. Lam discloses the use of multiplexers, de-multiplexers and switches to implement an encoder. The encoder disclosed by Lam does not use an optical circulator and a filter set. Dafesh is relied on for disclosing a pseudorandom spreading code. However, Dafesh does not disclose the use of an optical circulator and a filter set to encode the light. Thus, Claims 11 and 15 are non-obvious over the

cited references. Accordingly, reconsideration and withdrawal of the § 103 rejection of Claims 11 and 15 are requested.

C. Claims 12 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Lam in view of Dafesh and further in view of Dutt and further in view of Kartalopoulos, “Introduction to DWDM Technology”, IEEE Press, 2000, pages 1422-144 (“Kartalopoulos”).

Claims 12 and 16 depend from Claims 11 and 15, respectively, and incorporate the limitations thereof. Thus, for at least the reasons mentioned above in regard to Claims 11 and 15, these claims are non-obvious over Lam in view of Dafesh and further in view of Dutt.

Kartalopoulos does not cure the deficiencies of Lam, Dafesh and Dutt. Kartalopoulos is relied on for disclosing a reflective MEMS switch. However, Kartalopoulos does not disclose the use of an optical circulator and a filter set to encode the light. Thus, Claims 12 and 16 are non-obvious over the cited references. Accordingly, reconsideration and withdrawal of the § 103 rejection of Claims 12 and 16 are requested.

D. Claims 13 and 14 stand rejected under 35 U.S.C. § 102(b) (presumably, § 103(a)) as being anticipated by Dutt in view of Dafesh.

Independent Claim 13, as amended, includes the elements of “the light is encoded into the first encoded light by reflecting the light in the filters based on an optical circulator and a filter set.” As mentioned above in regard to Claims 11 and 15, Dutt in view of Dafesh does not disclose these elements.

Claim 14 depends from Claim 13 and incorporate the limitations thereof. Thus, for at least the reasons mentioned above in regard to Claim 13, Claim 14 is non-obvious over the cited references. Accordingly, reconsideration and withdrawal of the § 103 rejection of Claims 13 and 14 are respectfully requested.

### **III. Allowable Subject Matter**

Applicants appreciate the Examiner’s indication that Claims 2-4, 9 and 10 would be allowable if rewritten in independent form including all of the limitations of the base claims and any intervening claims. Applicants submit that the amendments to their respective base claims, namely, Claims 1 and 8, have placed these dependent claims in condition for allowance.

Accordingly, reconsideration and withdrawal of the objection to Claims 2-4, 9 and 10 are requested.

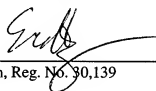
**CONCLUSION**

In view of the foregoing, it is believed that all claims are now in condition for allowance and such action is earnestly solicited at the earliest possible date. If there are any additional fees due in connection with the filing of this response, please charge those fees to our Deposit Account No. 02-2666.

Respectfully submitted,

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